

201100 24192860

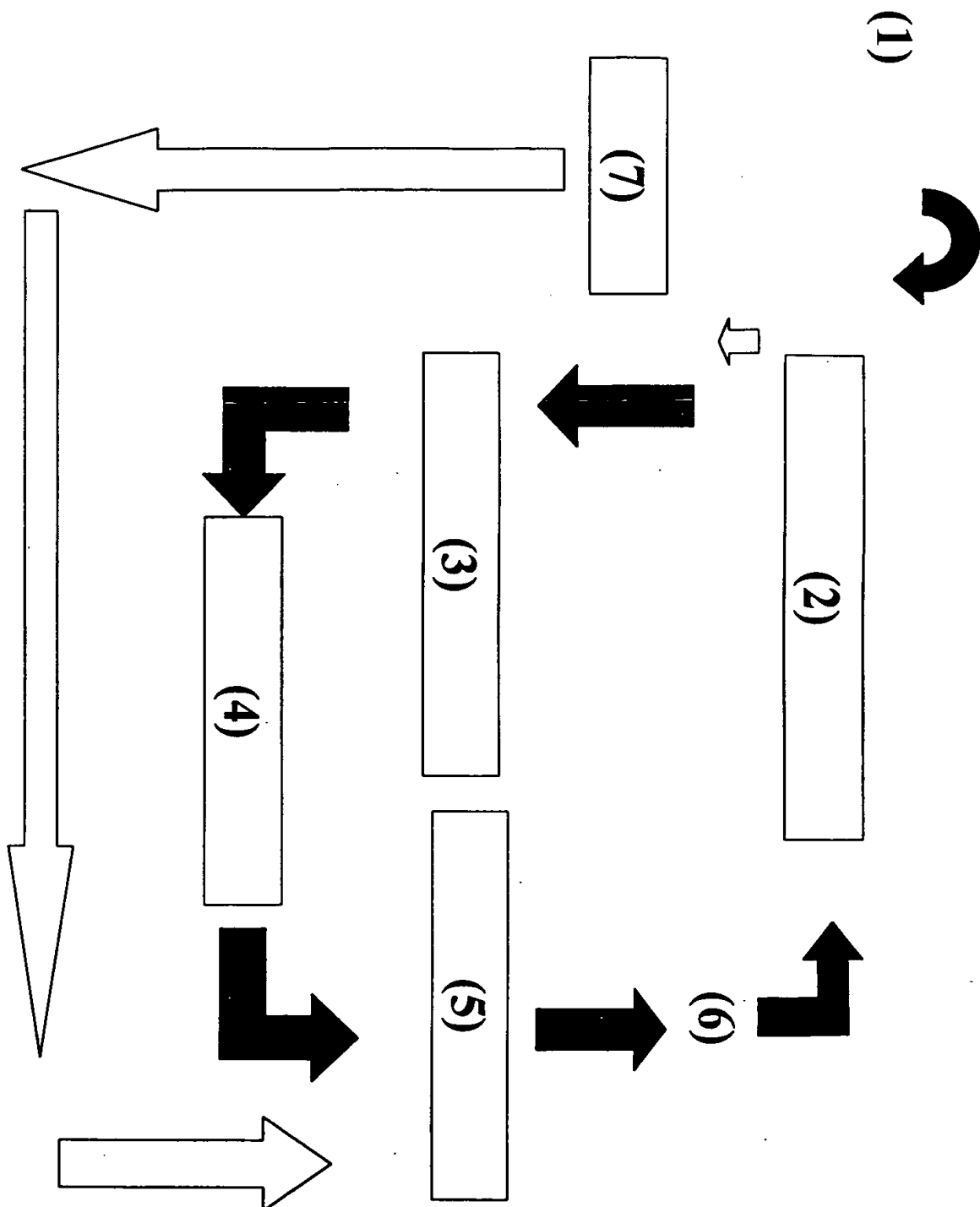


Fig. 1

Performance Characteristics

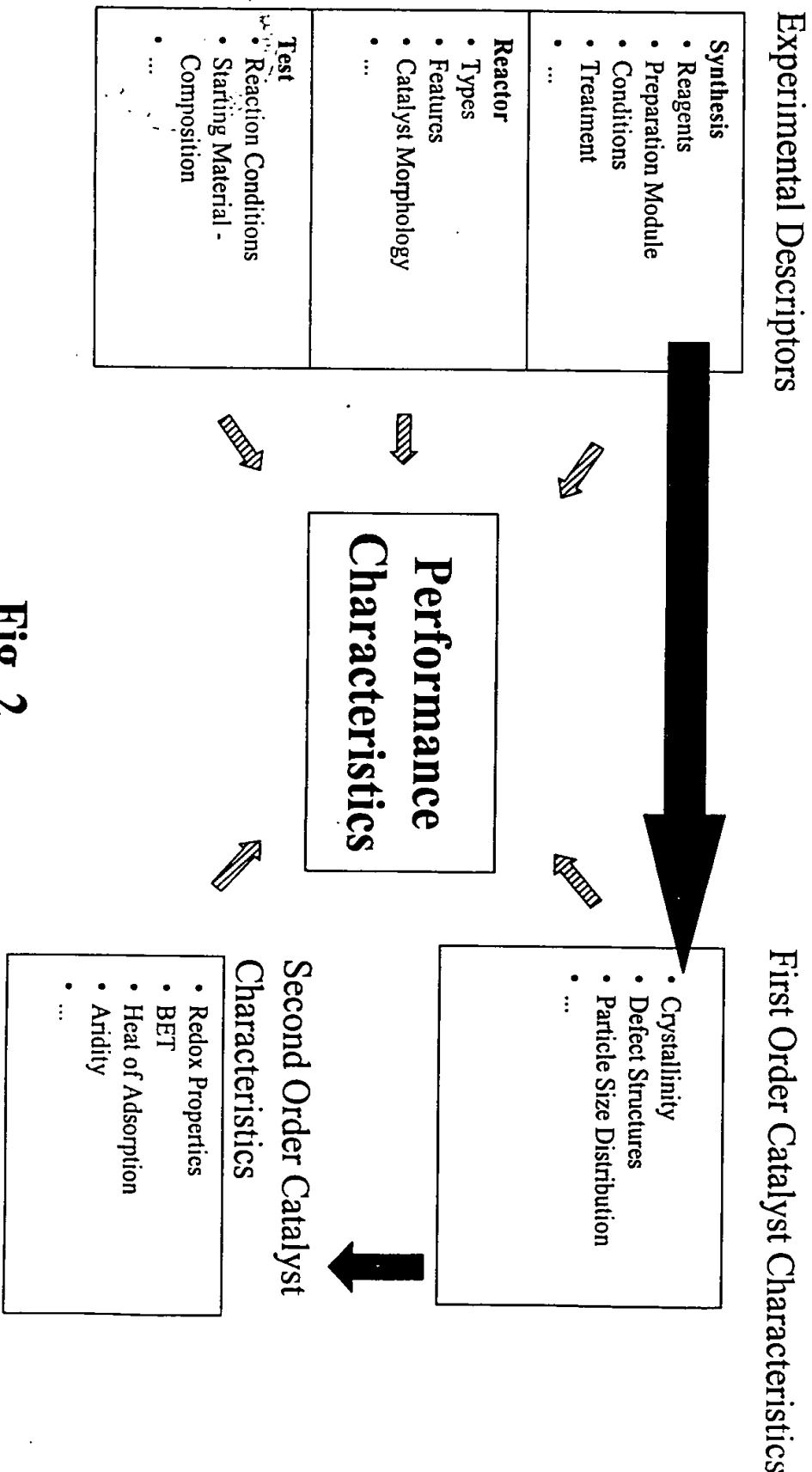


Fig. 2

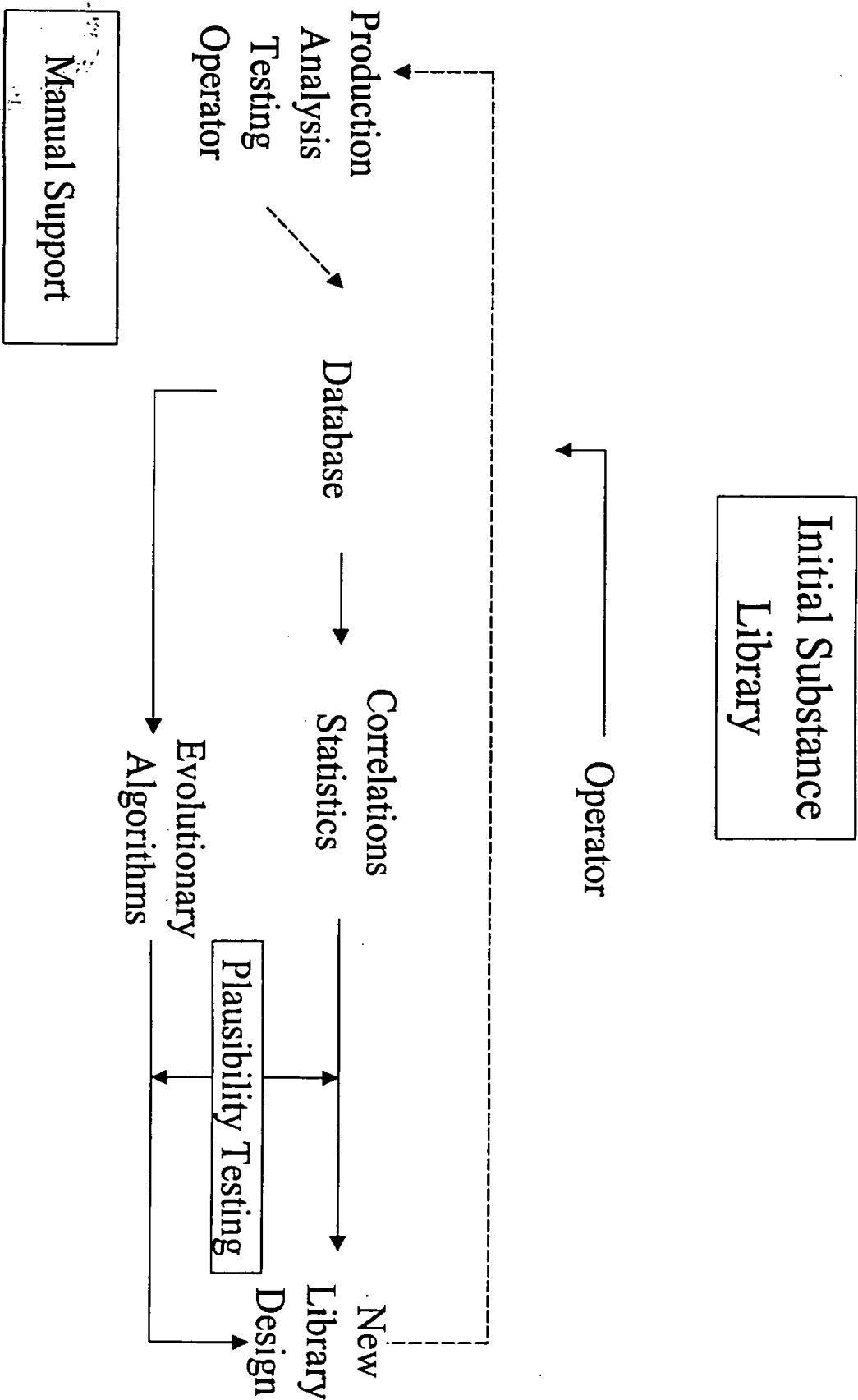


Fig. 3

Data Flow and Material Flow

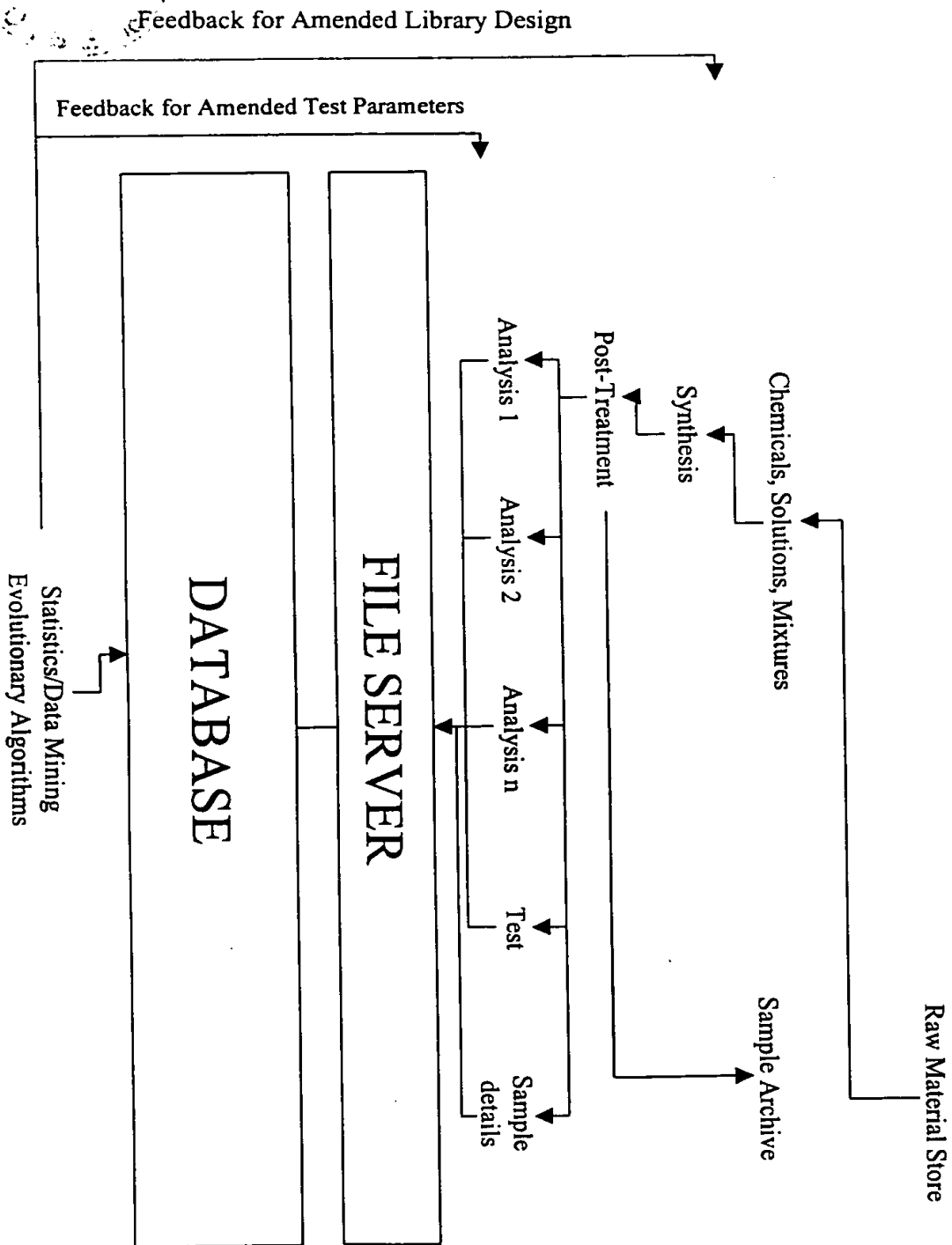
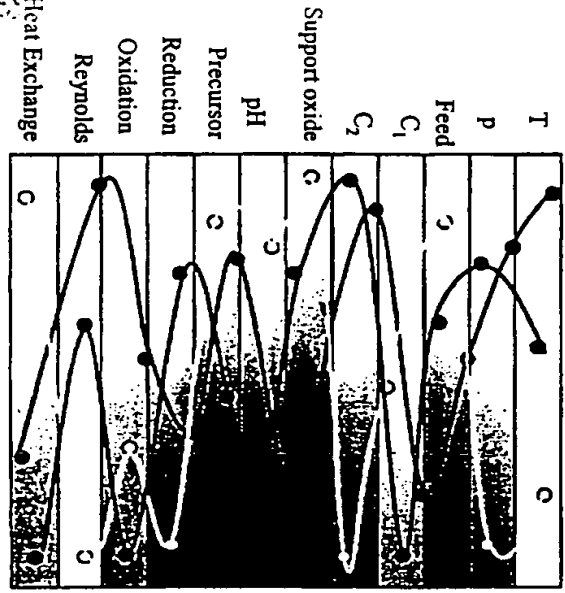


Fig. 4

Original Library Design and Tests Using the Entire Parameter Space

Step 1: Design of Library, Test
and Process Conditions



Step 2: Data Acquisition

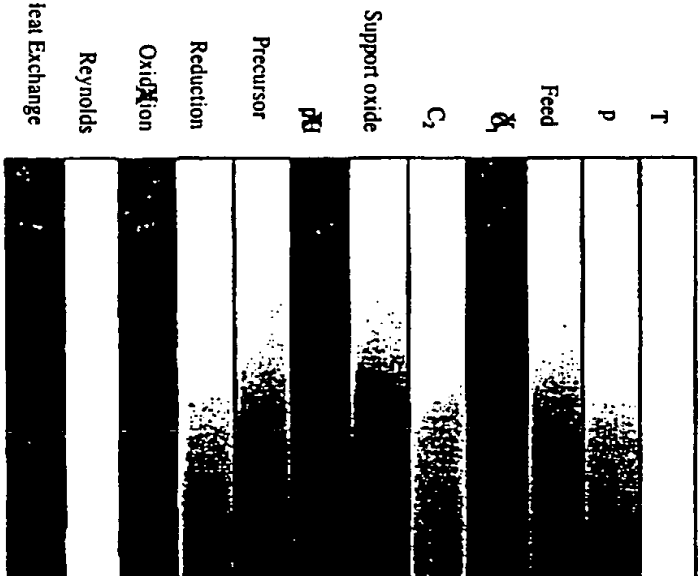
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P	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C ₁	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C ₂	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Support oxide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Precursor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oxidation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reynolds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heat Exchange	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Activity	++	+	+++
Selectivity	+	++	-

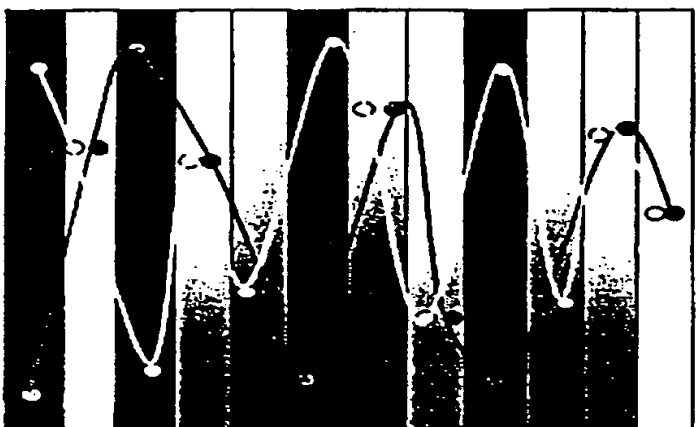
Fig. 5a

Regression Analysis, Energies of the Parameter Space

Step 3: Evaluation of the
Significant of the Design and
Test Parameters
Regression Analysis



Step 4: Test of the Regression
Analysis
Confirmation of Trends



Step 5: Amended Design of
the Library, Test and Process
Conditions

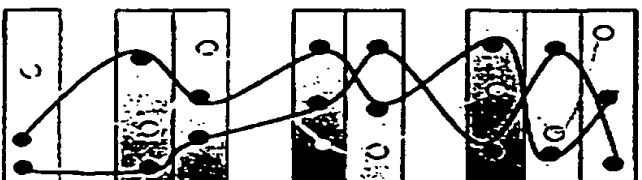


Fig. 5b

Principle of Genetic Algorithms

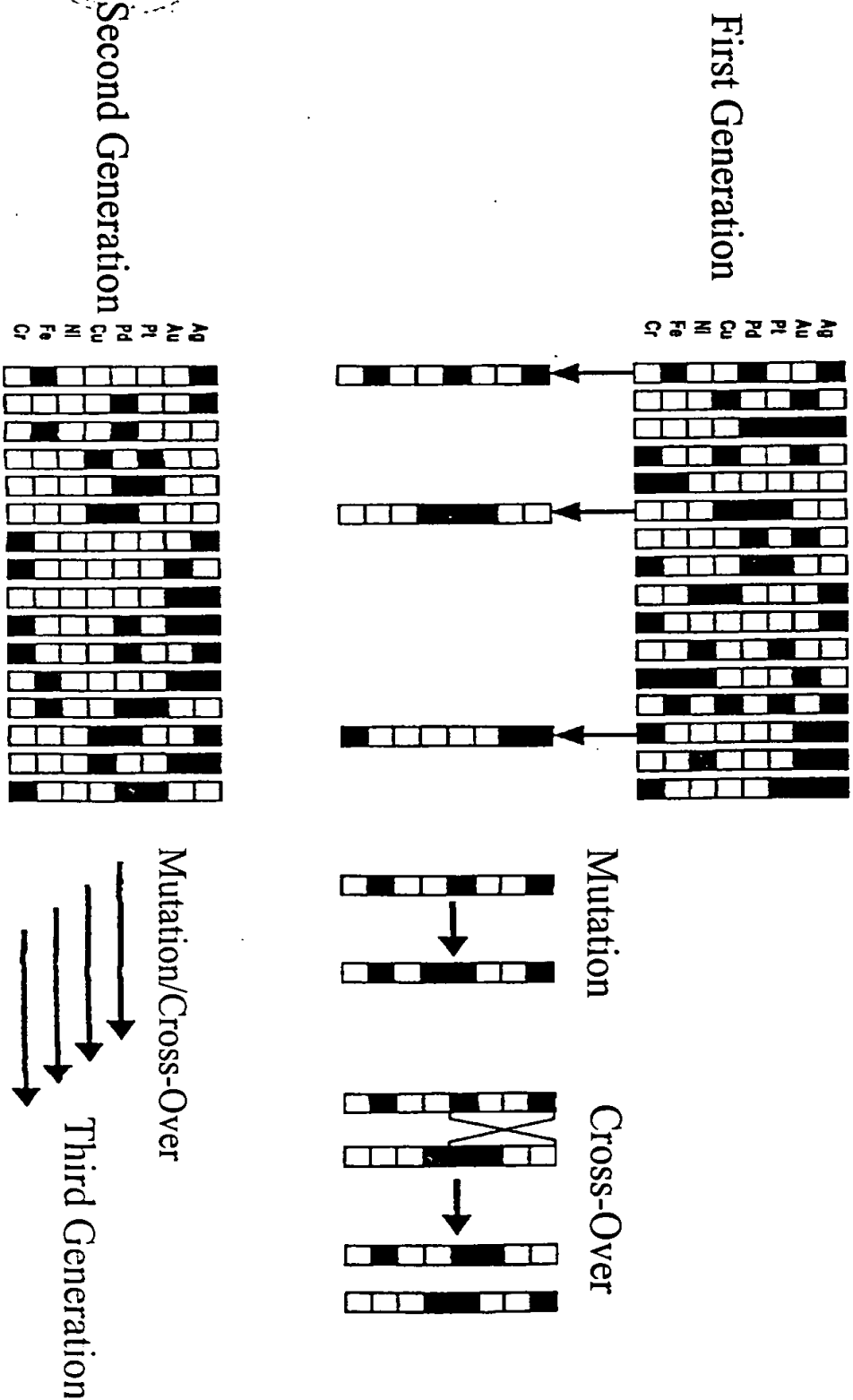


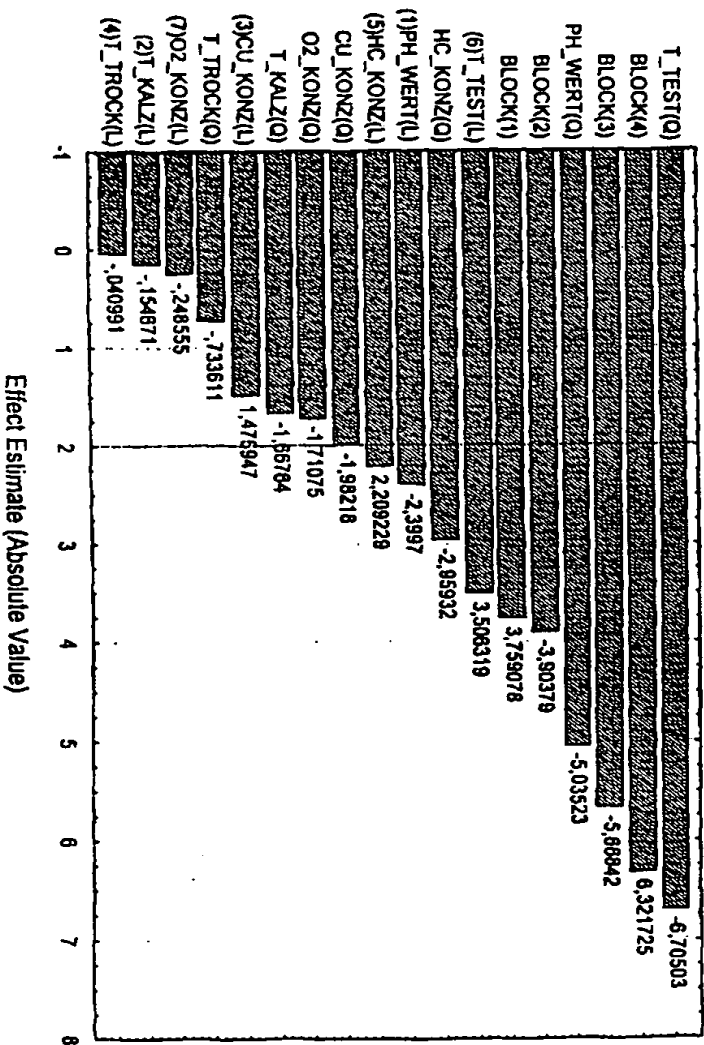
Fig. 5c

Sensitivity Analysis of the Parameters of the Initial Library Pareto Diagram

Pareto Chart of Standardized Effects; Variable: U_NOX
7 factors, 5 Blocks, 96 Runs; MS Residual=128,2875

DV: U_NOX

p=.05



Effect Estimate (Absolute Value)

Fig. 6

Sensitivity Analysis of the Parameters of the 1st Optimized Library Pareto Diagram

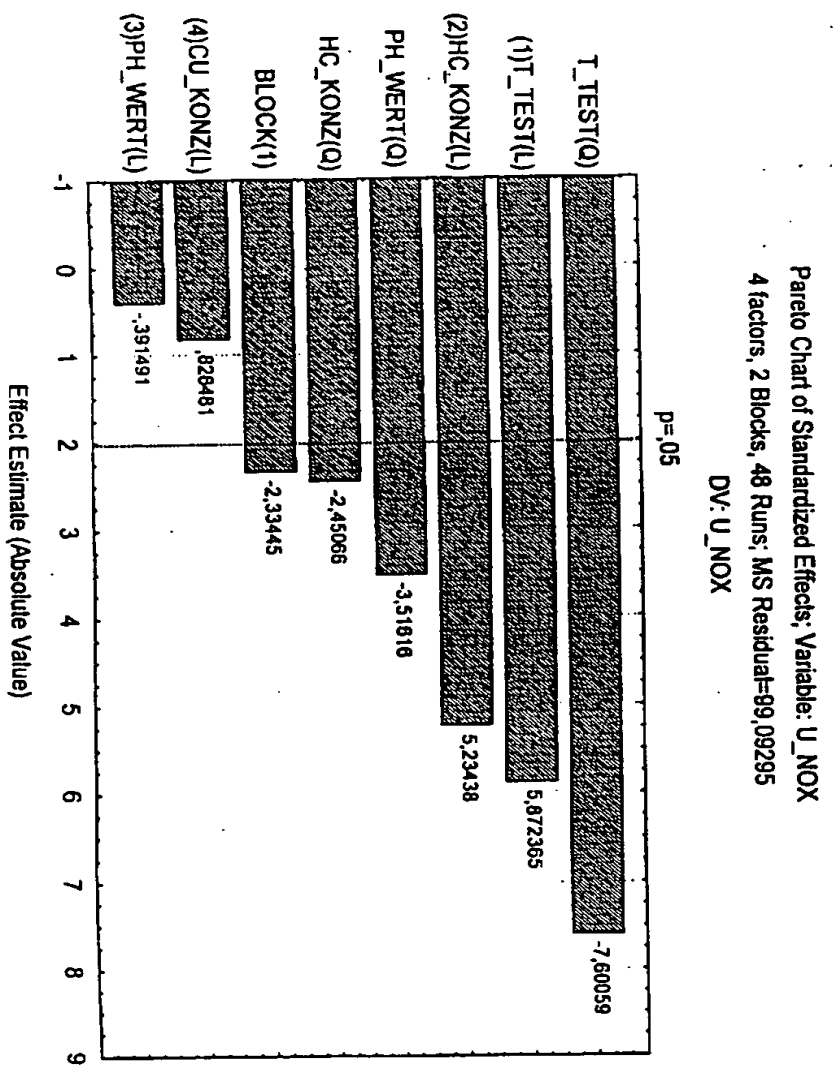


Fig. 7